1. A method of self-calibrating and testing the vaporized flow of a liquid precursor in a thin film vaporization system comprising the steps of:

providing a thin film vaporization system comprising stored liquid precursors in tanks under pressure connected to a deposition chamber via a manifold which in turn is connected to pipe lines emanating from each tank and coupled to own liquid flow meters (LFMs) and injection valves (IVs);

activating a servo mechanism to pump down said deposition chamber to achieve partial vacuum therein;

opening a downstream throttle valve (TV) for a carrier gas to flow through said manifold to commence self-calibration;

a first timing to monitor a baseline self-calibrated pressure by a pre-determined TV opening which correlates with the specified baseline pressure in said deposition chamber;

a second timing to allow for the stabilization of carrier gas after throttling said TV to a predetermined opening;

selecting a liquid precursor and its own said respective pipe line with said own LFM and own IV connected to said deposition chamber via said manifold;

setting said own IV to a predetermined opening to start said liquid precursor to flow;

setting said TV opening to a normal liquid precursor flow rate for film deposition;

a third timing to allow for liquid precursor flow to stabilize;

a fourth timing to allow vaporization of said liquid precursor in said deposition chamber;

measuring final pressure in said deposition chamber;

stopping the flow of said precursor fluid; and

pumping down said deposition chamber to continue with said film deposition pending the result of said pressure rise.

2. The method according to claim 1, wherein said tanks are pressurized by helium gas.

3. The method according to claim 2, wherein said helium gas is pressurized to between about 20 to 30 pounds per square inch gauge (psig).

4. The method according to claim 1, wherein said helium gas is kept at room temperature.

5. The method according to claim 1, wherein said manifold has heater elements.

6. The method according to claim 5, wherein said heated fixture elements are spaced nominally at 290 mils between about 250 to 350 mils from distribution shower head.

7. The method according to claim 5, wherein said heated fixture is heated nominally to 400 °C between about 350 to 450 °C.

8. The method according to claim 1, wherein said carrier gas is a second helium.

9. The method according to claim 1, wherein said flow of said second helium through said manifold is between about 750 to 850 milligrams per minute (mgm).

10. The method according to claim 1, wherein said first timing is between about 5 to 15 seconds.

11. The method according to claim 1, wherein said baseline self-calibrated pressure is between about 2 to 4 torr.

12. The method according to claim 1, wherein said second timing is between about 4 to 6 seconds.

13. The method according to claim 1, wherein said liquid precursor is tetraethylorthosilicate (TEOS).

14. The method according to claim 1, wherein said liquid precursor is triethylborate (TEB).

15. The method according to claim 1, wherein said liquid precursor is triethylphosphate (TEPO).

16. The method according to claim 1, wherein said injection valve (IV) comprises a venturi tube.

17. The method according to claim 1, wherein said normal liquid precursor flow rate is between about 800 to 1000 milli gram per minute (mgm).

18. The method according to claim 1, wherein said third timing to allow for liquid precursor to stabilize is between about 7 to 9 seconds.

19. The method according to claim 1, wherein said fourth timing to allow for liquid precursor vaporized flow to be verified is between about 4 to 6 seconds.

20. The method according to claim 1, wherein said final pressure in said deposition chamber is between about 6.5 and 7.5 torr.

21. The method according to claim 1, wherein said pumping down said deposition chamber is accomplished within between about 9 to 11 seconds.

22. A method of self-calibrating a thin film vaporization system and depositing thin film on a substrate placed in a deposition chamber comprising the steps of:

providing a carrier gas and a thin film vaporization system comprising stored liquid precursors in tanks under pressure connected to a deposition chamber via a manifold which in turn is connected to pipe lines emanating from each tank and

coupled to own liquid flow meters (LFMs) and injection valves (IVs), wherein the carrier gas has its own pipe line connected to said manifold;

activating a servo mechanism to pump down said deposition chamber having disposed in it a substrate to be deposited thin film; then

allowing said carrier gas to flow into said deposition chamber via said manifold; then

measuring first pressure level in said deposition chamber to establish a baseline calibration for said vaporization system; then

allowing said liquid precursor to flow into said deposition chamber via said manifold; then

measuring second pressure level in said deposition chamber to establish an upperline calibration for said vaporization system; and

performing thin film deposition in said deposition chamber using the results of said upperline calibration.

23. The method according to claim 22, wherein said pump down is achieved until a partial vacuum in said deposition chamber is achieved.

24. The method according to claim 22, wherein said carrier gas is helium.

25. The method according to claim 22, wherein said carrier gas is allowed to flow at a rate between about 750 to 850 sccm.

26. The method according to claim 22, wherein said carrier gas is allowed to flow between about 5 to 15 seconds.

27. The method according to claim 22, wherein said baseline calibration is between about 2 to 4 torr.

28. The method according to claim 22, wherein said liquid precursor is allowed to flow at a rate between about 800 to 1000 mgm.

29. The method according to claim 22, wherein said liquid precursor is allowed to flow between about 7 to 9 seconds.

30. The method according to claim 22, wherein said upperline calibration is between about 6.5 to 7.5 torr.

31. The method according to claim 22, wherein said liquid precursor is tetraethylorthosilicate (TEOS), triethylborate (TEB), or triethylphosphate (TEPO).